

CLAIMS

1. A signal isolator comprising:

a first semiconductor substrate;

a first passive component formed on the first substrate;

an isolation layer formed over the first passive component;

a second passive component formed over the isolation layer;

the first and second passive components being coils;

an input for receiving an input signal; and

a driver circuit coupled between the input and one of said passive components.

2. A signal isolator comprising:

a first semiconductor substrate;

a first passive component formed on the first substrate;

an isolation layer formed over the first passive component;

a second passive component formed over the isolation layer;

the first and second passive components being capacitor plates;

an input for receiving an input signal; and

a driver circuit coupled between the input and one of said passive components.

3. The isolator of claim 1 or claim 2, wherein the isolator is formed on a single semiconductor substrate.

4. The isolator of claim 1 or claim 2, further comprising a second silicon substrate, wherein the driver circuit is formed on the second substrate.

5. The isolator of claim 1 or claim 2 wherein the first passive component is formed on top of the first substrate.

6. The isolator of claim 1 or claim 2 wherein the first passive component is formed into the first substrate.

7. The isolator of claim 1 or claim 2, further comprising a third passive component on the substrate, a second isolation layer over the third passive component, and a fourth passive component formed over the second isolation layer, wherein the driver circuit provides signals to the first and third passive components.

5

8. The isolator of claim 1 or claim 2, further comprising a third passive component on the substrate, a second isolation layer over the third passive component, and a fourth passive component formed over the second isolation layer, wherein the driver circuit provides signals to the second and fourth passive components.

10

9. The isolator of claim 8 wherein the first and second isolation layers are a single layer.

15
20
25

10. The isolator of claim 1 wherein the first and second passive components are referenced to separate, galvanically isolated grounds, and further including a Faraday shield between the first and second passive components, with the Faraday shield referenced to the same ground as the second passive components.

11. The isolator of claim 7, wherein the third and fourth passive components are capacitor plates.

12. The isolator of claim 7, wherein the first, second, third, and fourth passive components are coils.

13. The isolator of claim 12 wherein the first and second passive components are referenced to separate, galvanically isolated grounds, and further including a Faraday shield between the first and second passive components, with the Faraday shield referenced to the same ground as the second passive components.

25